REMARKS/ARGUMENTS

Claims 1-46 are pending in the application. Applicants have amended claims 1 and 44. Applicants respectfully request reconsideration and allowance of the claims in view of the amendments and the following arguments.

The specification and the claims have been amended to correct minor informalities. Specifically, on page 17, line 21, the phrase "a 2-D CCD" has been changed to "a 2-Dimensional Charge Coupled Device (2-D CCD)" in accordance with the Office action. Further, in claim 44, the phrase "bad ROI" has been changed to "bad Region Of Interest (ROI)." These amendments do not introduce new matter.

Applicants have also amended claim 1 to better define the scope of the invention. Specifically, the last step of claim 1 has been amended as shown. Support for the amendments is found in the summary of the invention paragraphs 63 and 66, as well as in claim 21.

Claims 1-3, 6-27, 32, 34-44 and 46 stand rejected under 35 USC § 102(b) over Kochergin et al. (US 6,819,812). Applicants respectfully disagree.

Applicants first submit that the present invention relates to efficient and accurate determination of a "resonance parameter", i.e. scan angle or wavelength, in a SPR instrument by establishment of a calibration profile for each ROI and thereafter using the calibration profile to determine the resonance parameter by fitting the calibration profile to experimental results. As is pointed out in the summary of the invention, paragraphs 63 to 66, the calibration profile (empirical profile) is preferably

generated from a resonance profile of relatively fine angle or wavelength spacing, whereas the experimental scans may be obtained at a much lower spacing, and possibly over a shorter range. Hence, the time required for each experimental scan may be greatly reduced and thus the efficiency increased, while preserving the accuracy.

Kochergin et al. discloses an optical sensor diagnostic system using a tunable VCSEL as light source. In Kochergin et al., there is no disclosure of any method for quantification of SPR resonance profiles using a calibration profile that is generated from a calibration scan.

More specifically, with respect to the step of "obtaining at least one calibration result", Kochergin et al. col. 11 lines 26-31 refers to a **run time calibration** of the tuning signal controlling the wavelength emitted by the VCSEL in response to detection of "one or more absorption or reflection bands from one or more wavelength reference devices 43" (lines 19-25). Kochergin et al. does not mention or suggest use of a calibration scan to obtain calibration results for subsequent use.

With respect to the step of "generating, from at least one calibration result, a calibration profile" Kochergin et al. col. 9 lines 50-55 referring to Figure 4 shows an example of a shift in wavelength of a SPR resonance profile due to, for example, "a biomass specimen to be detected as it is adsorbed onto the sensor surface" which is disclosed in col. 16 lines 49-58. Hence Figure 4 simply shows the underlying phenomena measured by SPR, and does not in any way relate to generation of a calibration profile.

With respect to the step of "determining at least one resonance parameter by fitting at least one experimental result to the calibration profile", as already mentioned Kochergin et al. col. 16 lines 49-58 shows the underlying phenomena measured by SPR, and does not in any way relate to determining the resonance parameter, e.g. wavelength position for the measured resonance curve, by fitting the experimental result to a calibration profile obtained as discussed above.

Applicants submit that therefore claim 1 is novel over Kochergin et al. As all other claims either are dependent on claim 1 or directly relates to the same invention, the same arguments apply for them. Therefore claims 1-3, 6-27, 32, 34-44 and 46 are novel over Kochergin et al.

Claims 4, 5, 28-31, 33 and 45 stand rejected under 35 USC 103(a) as being obvious in view of Kochergin in view of Thornton (US 7,282,242). Applicants respectfully disagree. In response, Applicants submit that Kochergin et al. has been discussed extensively above. Applicants submit that addition of Thornton does not cure the deficiencies of Kochergin et al. Therefore the obviousness rejections of the claims should also be withdrawn.

Applicants respectfully submit that claims 1-46 as amended are patentable. Applicants assert that this application is in condition for allowance and such action is earnestly requested.

Early and favorable consideration is respectfully requested.

Respectfully submitted,

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